Investigation of the Anxiolytic Effects of Passiflora Incarnata in the Rat Model

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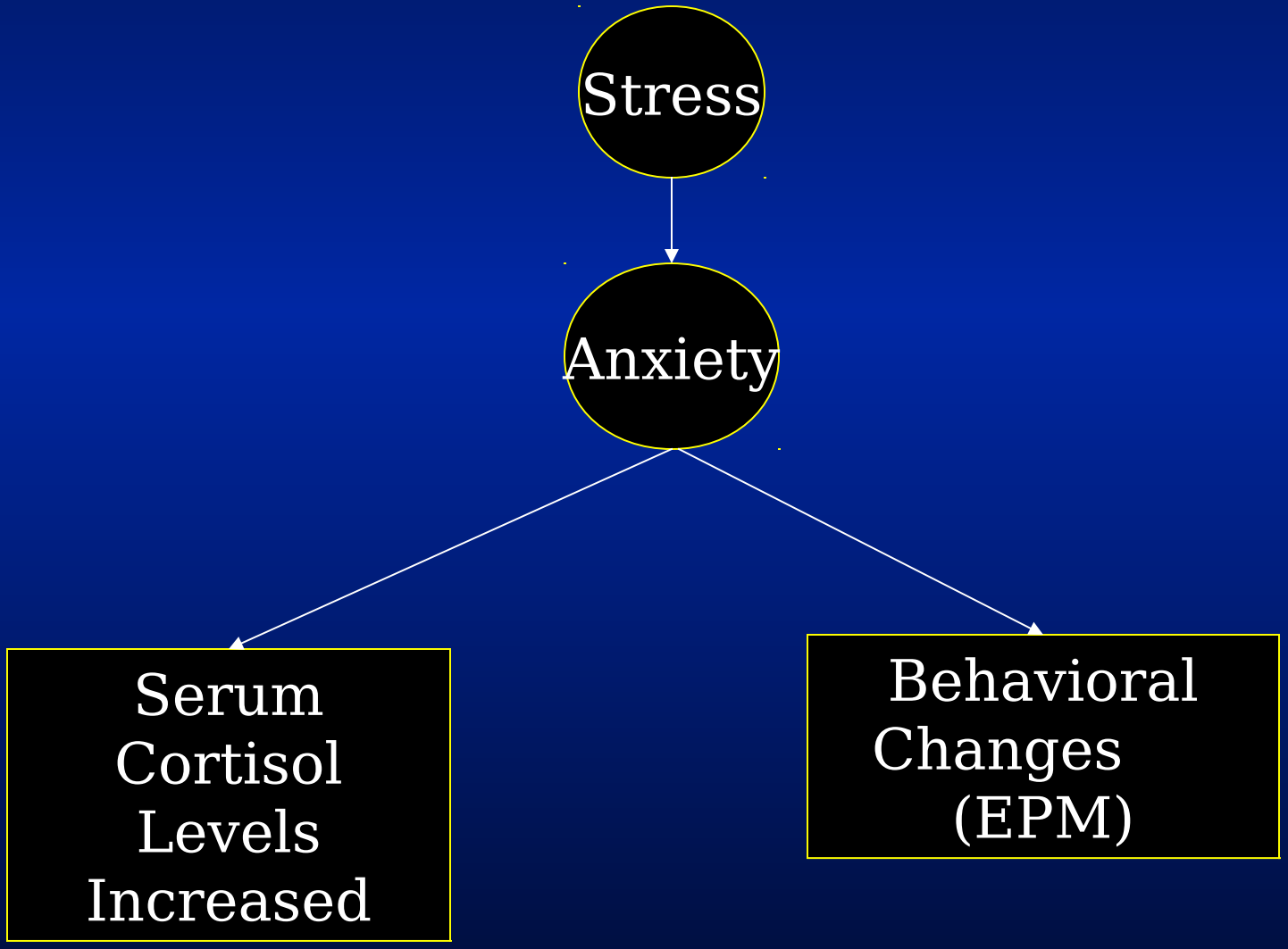
Significance

- There are an estimated 400 million people world wide suffering from anxiety disorders
- In 1997, an estimated 15 million Americans took medications and herbals concurrently as alternative treatments.
- It is important to understand the effects and interactions of herbals (Passiflora incarnata) on the patient in the perioperative period

Aim

- To determine the anxiolytic effects of chrysin (a Passiflora incarnata extract) examining both the behavioral and physiologic components of anxiety
- To investigate if the anxiolytic effects of chrysin are a result of interaction with the benzodiazepine site on the $GABA_A$ receptor

Theoretical Framework



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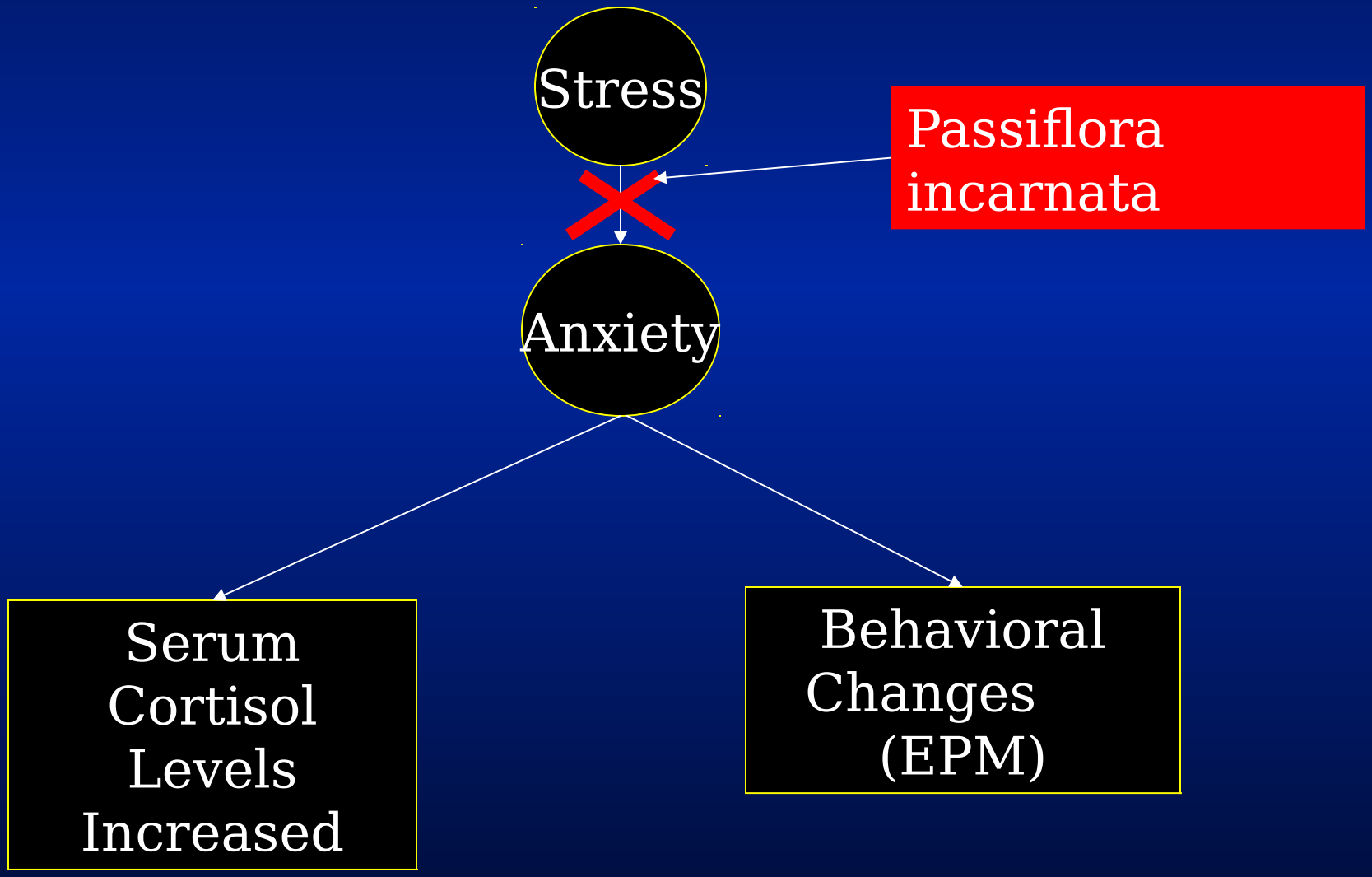
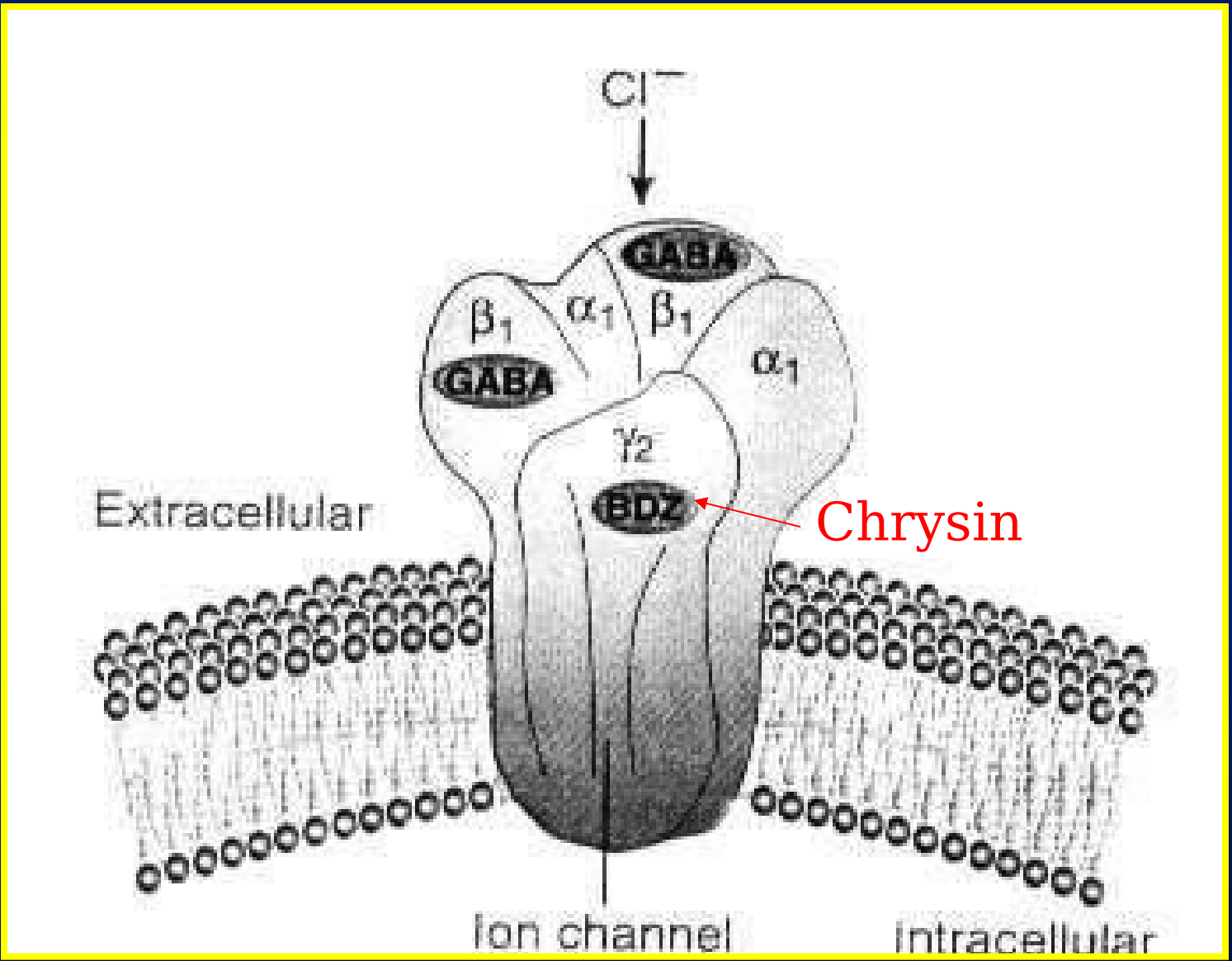


Theoretical Framework



Background

- Passiflora incarnata has a long history of calming and sedative effects
- Primitive cultures have used this plant as a sedative
- There is a lack of scientific research investigating the anxiolytic properties of Passiflora incarnata

Research Questions

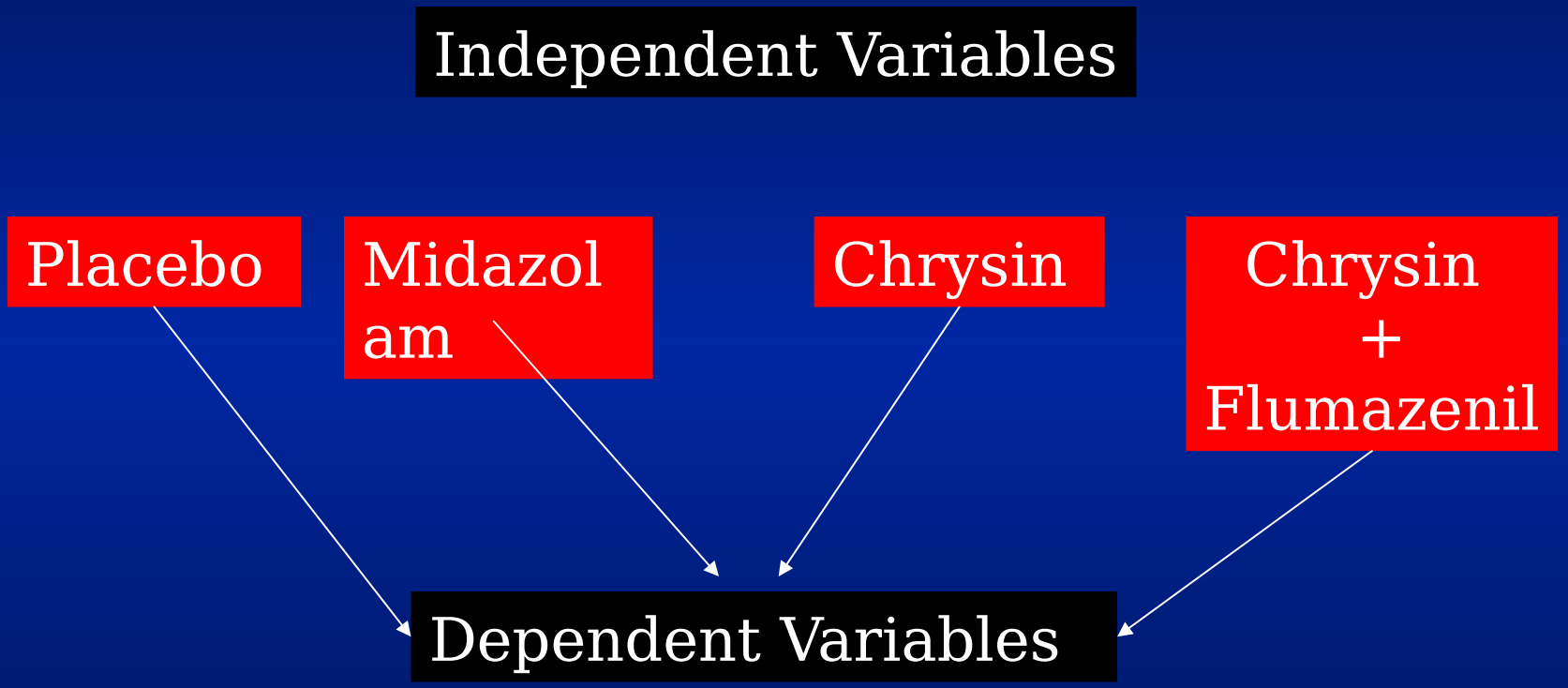
- Does Chrysin (a Passiflora incarnata extract) have an anxiolytic effect in the laboratory rat?

- Is the anxiolytic effect of chrysin a result of modulation of the benzodiazepine site on the $GABA_A$ receptor?

Design

- **Four Groups**
- Placebo group
- Chrysin 3mg/kg
- Midazolam 1.5mg/kg
- Chrysin 3mg/kg + Flumazenil 3mg/kg

Variables


Independent Variables
Placebo
Midazolam
Chrysin
Chrysin + Flumazenil
Dependent Variables
Serum Corticosterone
EPM Evaluation

Power Analysis for ANOVA

- Power = 0.8
- Effect Size = 0.5
- Alpha = 0.05
- N = 44
- Statistical analysis = ANOVA (one-tailed)
  - Post hoc testing (Tukey)

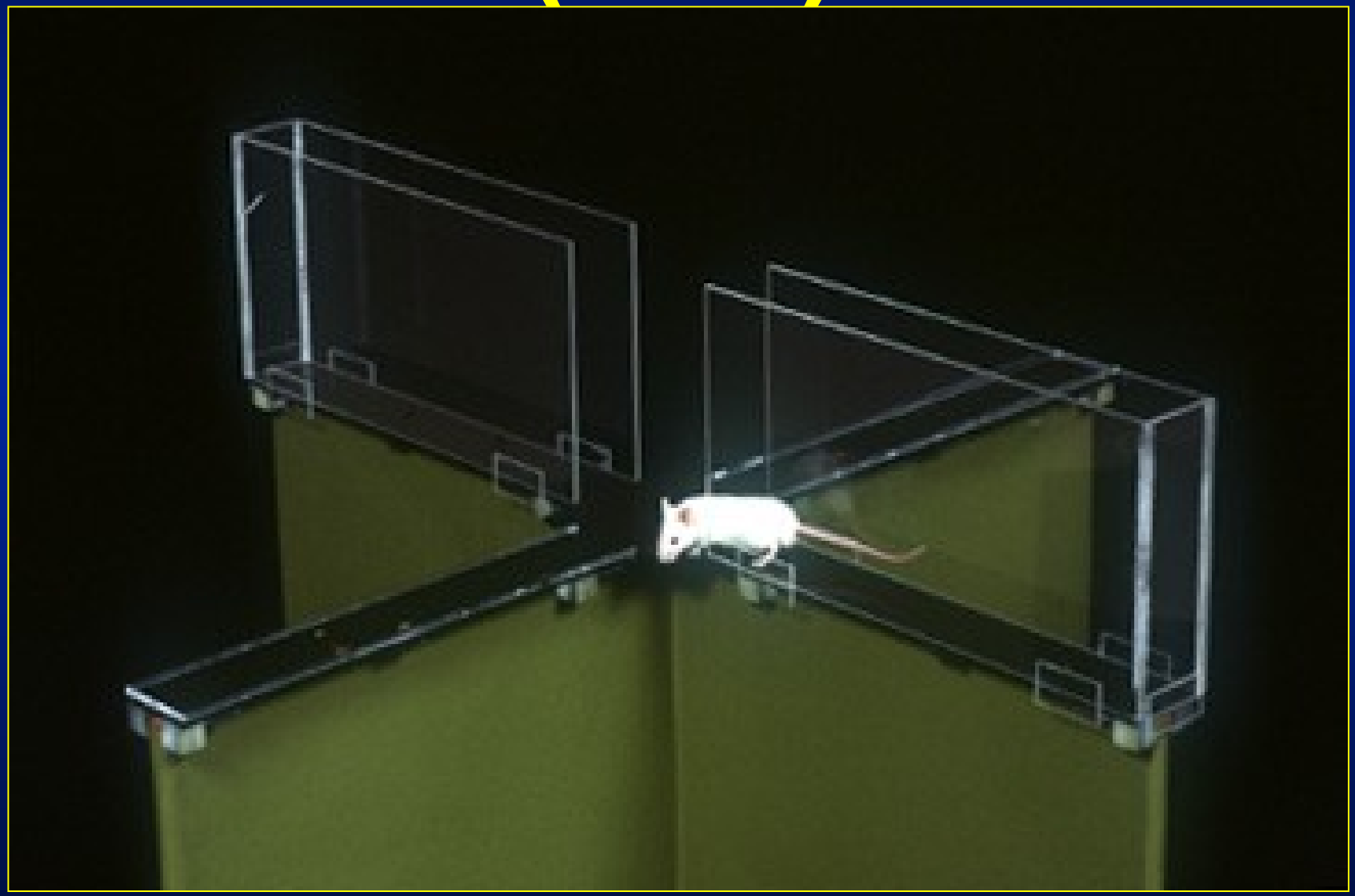
Methods

- All testing will be done between 1 and 4 pm
- Serum Cortisol levels immediately after EPM testing
- Rats will be sacrificed and blood samples will be attained

Procedure on the EPM

- Medication injected intraperitoneally 30 minutes prior to testing
- Tested for five minutes on the maze
- Amount of time spent in each arm will be recorded by video camera

Elevated Plus Maze (EPM)



Questions